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ENTOMOLOGICAL NEWS

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A New Species of Water Beetle from Michigan (Coleoptera, Haliplidae) *

By PAUL J. SPANGLER, Columbia, Missouri

Among various aquatic beetles taken by the author in Emmet County, Michigan, in 1952, was a series of an unfamiliar haliplid beetle. These were determined as a new species of *Brychius*, a small genus of rare haliplids previously reported only from British Columbia, Alberta, California, Oregon, and Utah. In addition, specimens from Montana and Colorado have been examined by the author. Specimens of the new species were sent to Mr. Hugh B. Leech of the California Academy of Sciences, who concurred with the author's determination.

Formerly four species of *Brychius* had been described from North America: *B. parvulus* Robts., *B. hornii* Cr., *B. albertanus* Carr, and *B. pacificus* Carr. However, *B. parvulus* Robts. has since been removed from the genus and a new genus, *Apteraliplus* Chandler (1943), has been erected for it. A key to the North American species of *Brychius* was constructed by Carr (1928) and another to the two California species by Chandler (1948). Unfortunately, examination of a series of the various species shows that the characters used for determination are variable and difficult to evaluate. A revision of the genus is greatly needed, but this must wait until sufficient material is available.

The species from Michigan runs to *pacificus* in Carr's key since the sides of the prosternum anterior to the coxae are coarsely punctate. It may be distinguished from *pacificus* and all the other species by the much denser punctation on the head,

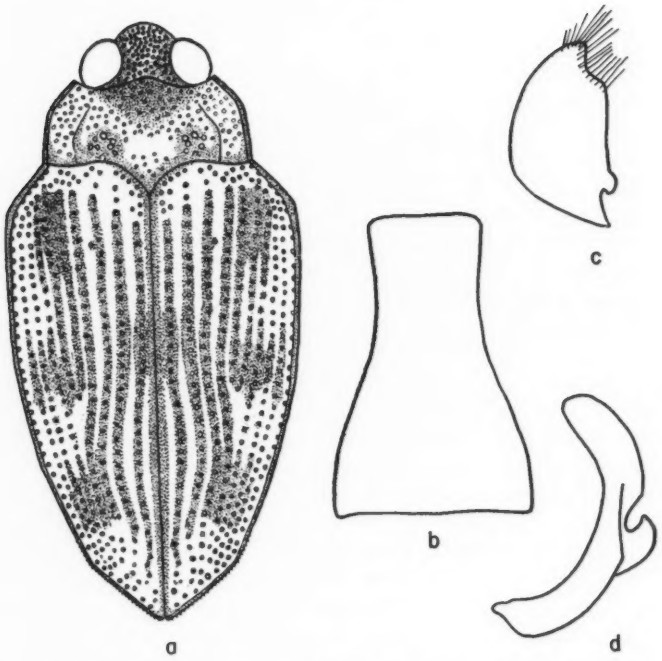
* Contribution No. 1378 from the Department of Entomology, University of Missouri and the Michigan Biological Station.

infuscation on the base of head between eyes, coarser punctation on pronotum, and larger average size. In the western species the punctures on the head are separated by at least their width; those on the Michigan species are separated by about one-half their width. The maculation of the latter species is also more pronounced and more confluent.

Brychius hungerfordi n. sp.

Holotype male: Length 4.20 mm.; width 2.15 mm.

Head testaceous apically, infuscate around margin of eyes, these margins connected with transverse basal infuscation; punctures coarse, separated by one-half their width, smaller than those of pronotum; clypeus fuscous, closely punctured; appendages testaceous, penultimate segment of labial palpi strongly dilated. *Pronotum* testaceous except a piceous apical spot, lateral margins, two basal spots and an impressed fold on each side extending from base two-thirds the length of the pronotum; punctures larger and less dense than those of head, interspaces micropunctate; disc less densely punctate and considerably depressed; basal half of pronotum converging but little, becoming abruptly incurved in apical half; anterior and posterior margins bisinuate. *Elytra* testaceous with ten rows of setigerous punctures not extending completely to apex, intervals micropunctate; elytral margins, sutural stripe and rows of punctures piceous; apices denticulate. *Prosternum* margined from base, converging strongly to region of fore coxae then becoming nearly parallel converging very slightly to apex; margins and base infuscate, medial portion testaceous; finely and sparsely punctured basally with micropunctures in the interspaces, more coarsely punctate on apical third. *Mid-metasternum* strongly margined, margins continued in line with those of prosternum, sinuate and divergent apically; more finely punctate than prosternum, with micropunctures; margins and base infuscate, depressed behind the middle coxae. *Metasternum* coarsely and sparsely punctate laterally, with deep foveae laterad of the middle coxae. *Antecoxal piece* coarsely punctate laterally, finely and sparsely punctate medially; apex emarginate. *Metacoxal plates* coarsely punctate laterally, becoming less punctate towards coxal



Brychius hungerfordi n. sp.: a. holotype male; b. prosternum; c. left paramere; d. aedeagus.

suture. *Ventral segments:* first visible sternum piceous, coarsely and densely punctured; next two infuscate medially, the last abdominal sternum testaceous, finely and more densely punctate, noticeably channeled medially from the apex nearly seven-tenths the length of the segment. *Legs* testaceous except for a poorly defined fuscous ring at bases of femora; fore tarsal segments thickened, first three segments provided with small tufts of hair.

Allotype: Length 4.20 mm., width 2.20 mm. Similar in all respects to holotype except fore tarsi not modified.

Holotype male and *allotype,* Maple River, McKinley Township, Emmet County, MICHIGAN, July 8, 1952 (P. J. Spangler).

These will be deposited in the U. S. National Museum under type number 62208.

Paratypes: 25 females, 21 males same data as types; 8 females, 5 males, July 7, 1952; 1 female, 3 males, June 24, 1952; 4 females, 13 males, July 20, 1952; 1 female, July 23, 1952, same locality and collector; 1 male, July 23, 1952, same locality (H. B. Hungerford); 5 females, 2 males, August 13, 1952, same locality (Irwin Slesnick).

Paratypes will be distributed to the following institutions and persons: U. S. National Museum, California Academy of Sciences, British Museum, Canadian National Museum, Snow Entomological Museum, University of Michigan, American Museum of Natural History, University of Missouri, Museum of Comparative Zoology, and Messrs. F. N. Young, J. B. Wallis, H. F. Howden, I. L. Slesnick and the author's collection.

Variations: Although the holotype and allotype are about the same size, the females average larger than the males. The size varies considerably within each sex. The smallest specimen in the series is a male, 3.70 mm. in length and 1.90 mm. in width, while the largest is a female, 4.35 mm. in length and 2.25 mm. in width.

Although the great majority of specimens are marked as described for the holotype, three were observed to have the third and fourth elytral series of punctures interrupted briefly in the middle of the elytra, and then terminating normally in the apical third as indicated in figure a.

Habitat: This species was collected among plant roots under approximately two feet of water. The roots were exposed, through a gravel bottom, to a considerable current of cold water. A few exploratory collections in the west branch of Maple River and various other streams in the same general vicinity were unfruitful. Other aquatic beetles collected in the area but from beneath the overhanging bank were *Sperchopsis tesselatus* (Zieg.), *Hydroporus stagnalis* G. & H., *Deronectes depressus* Fab., and *Colymbetes sculptilis* Harr.

Acknowledgments: The author wishes to express his gratitude to Mr. Hugh B. Leech of the California Academy of Sci-

ences for his loan of the western species of *Brychius*, for suggestions, and verification of the determination.

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Notes on the Chilopod Genera Linotaenia and Tomotaenia with Description of a New Korynia

By RALPH V. CHAMBERLIN

In reviewing the representatives of the chilopod family Linotaeniidae from the western states, it has seemed desirable to clarify and justify the nomenclature that I believe must be applied to them and to list the synonymies that seem clear together with notes on those that seem probable.

The type of the new *Korynia* described is retained for the present in the author's collection.

Genus **LINOTAENIA** C. L. Koch

Linotaenia C. L. Koch, 1847, Rev. d. Myr., pp. 86, 188.
Strigamia Sager, 1856, Proc. Acad. Nat. Sci. Philadelphia, vol. 8, p. 109; Wood, 1865, Tr. Amer. Phil. Soc., ser. 2, vol. 13, p. 181 (Non Gray, 18424); Crabill, 1953, Ent. News, vol. 64, p. 169.
Scolioplanes Bergsöe and Meinert, 1866, Naturh. Tidsskr., ser. 3, vol. 7, p. 48.
Linotaenia Pocock, 1890, Ann. Mus. Civ. Genoa, ser. 2, vol. 9, p. 8; Bollman, 1893, Bull. U. S. Nat. Mus., no. 46, p. 142; Cook, 1895, Amer. Nat., vol. 29, p. 866.

A genus *Strigamia* was proposed by Gray in 1842 (Cycl. Anat. and Physiol, vol. 3, p. 547) with no more than the fol-

lowing characterization: "Eyes none. Antennae 14 jointed, moniliform, rather elongate. Feet very numerous, 50 or more." This description is so general as to cover the entire order of Geophilida, providing neither generic nor family characters that might serve to place the genus. Since Gray neither named nor indicated any species for it, *Strigamia* has been quite generally ignored by European workers. However, in 1856, as indicated above, Sager in America used the name in connection with his new species *fulva,* thus for the first time validating *Strigamia* as a genus. *Strigamia* must date from 1856, with Sager as its author, and not from 1842 with Gray as author.

However, before Sager's paper of 1856, C. L. Koch had already, in 1847, erected the genus *Linotaenia* for a group of species to which Sager's *fulva* belongs. *Strigamia* thus becomes a synonym of *Linotaenia.** In 1866, Bergsöe and Meinert set up a new name *Scolioplanes,* including under it among other forms the species *acuminata* and *crassipes* which Koch had previously placed in *Linotaenia.* It seems puzzling that European workers have continued to use *Scolioplanes* in spite of the fact that it is thus plainly a synonym of *Linotaenia.*

Genus **TOMOTAENIA** Cook

Tomotaenia Cook, 1895, Amer. Nat., vol. 29, p. 866.
Paraplanes Verhoeff, 1933, Ark. Zool. (Stockholm), vol. 26, no. 10, p. 22.
Generotype.—*T. parviceps* (Wood).

In 1895, Cook sought to restrict *Linotaenia,* not to replace it, by proposing a genus *Tomotaenia* to include the American species, which he suggested differed from the European forms "in details of the mouthparts" without, however, giving any hint as to what he supposed these differences to be. However, he named as type of his genus a Pacific coast species, *Strigamia parviceps* Wood, which does typify well a group of species ade-

* If typical *fulva* Sager proves to have the last pretergite separated from the corresponding pleurites and this character is accepted as of subgeneric significance, *Strigamia* would be available for the subgeneric name and *Protoplanes* Verhoeff would fall as a synonym to it.

quately distinct from *Linotaenia,* a group, so far as known, not represented in the eastern state, but occurring also in Asia.

For an Asiatic representative of this group, Verhoeff in 1913 proposed a genus *Paraplanes,* naming as its type, a new species, *P. svenhedini.* In 1938 he attributed to this genus a California species to which he gave the name *P. californicus* but which, as indicated above, is obviously a synonym of Wood's *parviceps,* the type of *Tomotaenia.*

Tomotaenia parviceps (Wood)

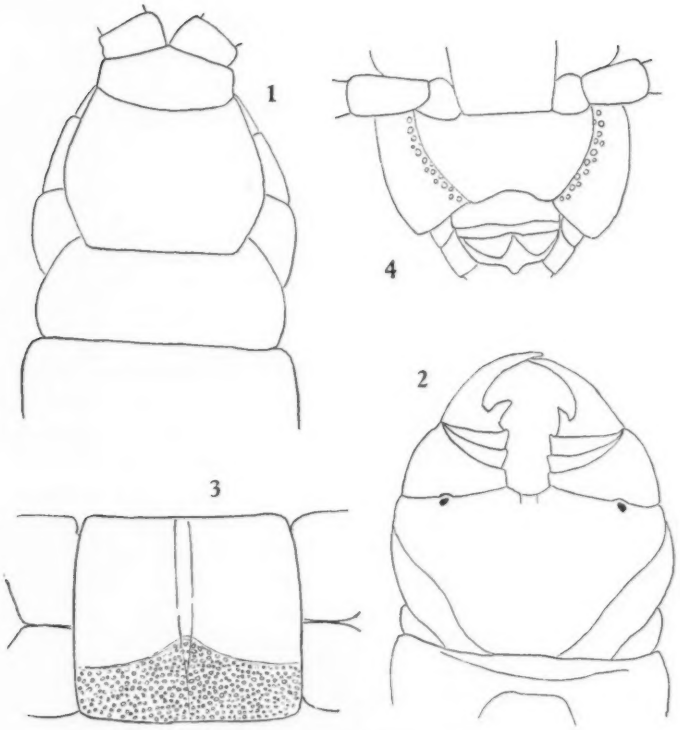
Strigamia parviceps Wood, 1863, Jour. Acad. Nat. Sci. Philadelphia, n. s., vol. 5, p. 49; 1865, Trans. Amer. Phil. Soc., vol. 13, p. 187.
Strigamia epileptica Wood, 1863, Jour. Acad. Nat. Sci. Philadelphia, n. s., vol. 5, p. 49; 1865, Trans. Amer. Phil. Soc., vol. 13, p. 188, figs. 21, 22.
Non *Scolioplanes parviceps* Meinert, 1886, Trans. Amer. Phil. Soc., vol. 23, p. 25.
Scolioplanes imperialis Brolemann, 1896, Ann. Soc. Ent. France, vol. 65, p. 60, pl. 1, figs. 14–16.
Linotaenia rubelliana Chamberlin, 1904, Proc. Acad. Nat. Sci. Philadelphia, vol. 56, p. 656.
Linotaenia laevipes Chamberlin (non Wood), 1912, Pomona Jour. Zool. and Ent., vol. 4, p. 659.
Paraplanes californicus Verhoeff, 1938, Zool. Anz., vol. 122, p. 282.

Meinert (op. cit.) described as questionably Wood's *parviceps* "a specimen which was said to be a type of Dr. Wood" and which "was labeled '*Strigamia bidens* Wood' for which no more definite locality was given than" N. A.?). It seems inexplicable that Dr. Meinert should choose to ignore the original label and describe the specimen under another name without any explanation for doing so. His description was accepted by Attems (1929) as applicable to *parviceps* but not on the basis of any personal study. This identification was undoubtedly erroneous.

This large form, usually of a brilliant red color in life, a color that fades in preservatives, as here conceived occurs over much of California and north as far as British Columbia. Over this range it is subject to much variation in size of the mature

individuals and in number of pairs of legs without, however, showing any correlation between the variations and distribution or habitat, so far as studies so far made show. The variation in number of legs is from a minimum of 61 pairs (cotype of *rubelliana* from Palo Alto) to 91 pairs. A high number of legs seems to be especially common in Oregon and Washington. The maximum length so far recorded is that for the type of Wood's *epileptica,* 5½ in. or 140 mm. Other specimens measured by the author run up to 11–110 mm. Having made notes on the type of *epileptica* several years ago, it seems desirable to publish a redescription with some figures of this remarkably large specimen.

Tomotaenia epileptica (Wood) (*-parviceps*). A very large form, strongly attenuated cephalad, more moderately caudad. (The original description gave the color as orange throughout.) The head and dorsal plates, together with the prosternum, still exhibit the minute white punctation noted by Wood, with the general color now faded to brownish. The cephalic plate with median length nearly equal to the greatest width (cf. Fig. 1). Frontal suture present. Antennae filiform, contiguous at base. Basal plate of form shown in the figure, somewhat overlapped by the head. Claws of prehensors when closed not attaining front margin of head; tooth at base of claw large, obliquely subtruncate at tip (cf. Fig. 2). Dorsal plates smooth and shining, not sulcate. Spiracles all circular, the anterior ones large, gradually decreasing toward posterior segments. Ventral plates with a median longitudinal sulcus sharply impressed, with a transverse sulcus more or less evident behind middle and in front of proliferous area. Last tergite broad, caudally strongly convex. Last intertergite fused with pleurites. Last ventral plate very broad, its sides convex and strongly converging caudad, its caudal margin incurved. Coxal pores concentrated along and beneath border of sternite, opening into a broad longitudinal channel or furrow. Anal legs slender, the last joints broken off in type. Pairs of legs, 81. Length about 140 mm. Type taken in Oregon, vicinity of Puget Sound, by Dr. Kennedy. (Acad. Nat. Sci. Phila., no. 1080.)



Strigamia epileptica Wood, holotype

1. Head and prehensorial segment, dorsal view. 2. Prehensors. 3. Sternite of third segment. 4. Caudal end, ventral view (the segments somewhat telescoped).

Tomotaenia imperialis (Brolemann) (*-parviceps,* var.). This was based on a female with 83 pairs of legs taken in Washington. Its length is given as 68 mm. The one character given in Brolemann's description that might be regarded as possibly distinctive is the presence of a median longitudinal sulcus on the basal plate, not usually present or obvious in *parviceps.* However, occasional specimens of the latter species show a median white line from beneath the surface which it is thought is what Brolemann's specimen shows.

Genus **KORYNIA** Chamberlin

Korynia Chamberlin, 1941, Ann. Ent. Soc. America, vol. 34, p. 774.

This genus is closely related to *Tomotaenia* in having the coxal pores concentrated along and beneath the last sternite. It is known from species occurring in the Southwest from California to Texas. They are small, slender forms with coxal pores reduced in number, the new species described below being the largest so far known.

Korynia auxa new species

Color of preserved type reddish fulvous, the tergites in part with a deeper spot toward each border. Body very slender.

The head small, a little narrowed cephalad, with anterior margin convexly rounded; about equal in length and breadth; frontal line distinct.

Prehensors when closed attaining anterior margin of head; claws armed at base with a rather small, slenderly conical tooth, the other joints unarmed. Prosternum showing no chitinous lines; anterior margin with excision acute.

Dorsal plates not sulcate, the anterior ones somewhat irregularly rugose. Spiracles all circular. Sternites with a median sulcus; moderately puncto-rugose.

Last sternite broad, strongly narrowed caudad, trapeziform. Coxal pores few, along and beneath the sternite. Last dorsal plate shield-shaped but caudally subtruncate. Last intertergite separate from the pleurites which are well developed.

Anal legs of male crassate, not compressed, the claw reduced to a mere point.

Pairs of legs, 73. Length, 38 mm.

Locality.—CALIFORNIA, Squaw Valley. One male taken Mar. 23, 1941, by S. and D. Mulaik. Differing from previously known species in larger size and greater number of legs.

Neotropical Miridae, LXIX: A Remarkable New Genus of Phylini (Hemiptera)

By José C. M. Carvalho,* Museu Nacional, Rio de Janeiro, Brazil

Among the neotropical mirids in the collection of the U. S. National Museum, the author found a remarkable new genus of the tribe Phylini herewith described and figured. This work constitutes a portion of a study concerning Miridae in the U. S. National Museum. I am indebted to Dr. Reece I. Sailer who is in charge of the Heteroptera collection.

HAMBLETONIOLA n. gen.

Phylinae, Phylini. Genus of small size, body slightly ovoid, smooth, covered by very long and erect pubescence intermixed with silvery, flat and remumbent hairs. Head rounded in front, inclined, vertex smooth, convex with posterior margin straight; eyes of median size, sessil, touching the anterior margin of pronotum and reaching distinctly beyond the lateral margins of anterior angles of pronotum, smooth posteriorly; seen from the side, frons noticeably rounded, eyes somewhat compressed, distant from gula by a space about half the height of one eye, clypeus not separated from frons by a suture, vertical; rostrum reaching apex of hind coxae, the first joint noticeably incrassate.

Antennae inserted near the anterior margin of eye, distinctly above the inferior margin of orbita, segment I short, incrassate towards the apex; segment II about three times as long as first and about as thick as the latter, narrowed at extreme apex and base, covered by long, erect and somewhat silky hairs, their length equal to or more than diameter of segment; segment III ovoid, almost globose (female) or ovoid narrowed apically (male), strongly narrowed basally and apically, beset with long, black scale-like or flattened hairs; segment IV short, laminate with a narrow cylindrical base. In the nymph this segment

* John Simon Guggenheim Memorial Fellow 1953. Additional assistance was received from the Brazilian National Research Council.

shows remarkable variation since it assumes the color and shape which is to be found on the third segment of adults. It bears also a fossa near apex in which there can be found many very fine hairs (Figs. B, C). The third antennal segment on the adults is the thickest of all.

Pronotum somewhat rectangular, without collar or calli, disc flat, posterior margin almost straight, posterior angles rounded, lateral margins blunt, narrowing towards the head, the anterior angles in contact with eyes, smooth, beset with long erect hairs and scale-like recumbent pubescence; mesoscutum broadly uncovered; scutellum moderately convex, provided with long hairs and scale-like pubescence.

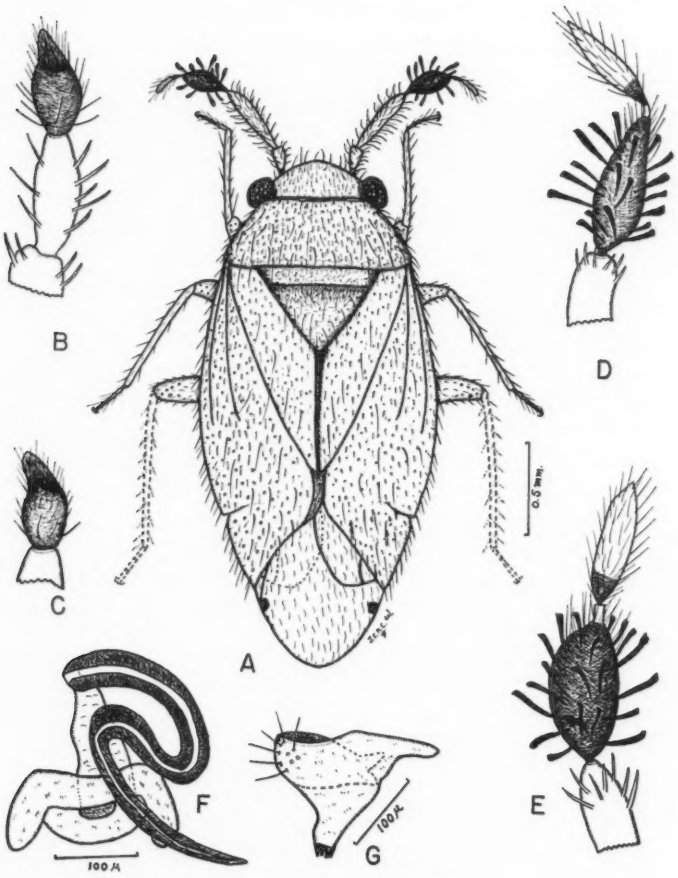
Hemelytra with clavus wider towards the apex, embolium distinct only on basal half, becoming gradually wider and less distinct towards the cuneus, cubital vein distinct on basal half of corium, cuneus about as long as wide at base, cuneal fracture small with distinct incisure, entire surface of hemelytra covered with long erect hairs and flattened, recumbent ones showing silvery reflection under incident light; membrane with two areolae, the apical angle or larger areola widely rounded.

Legs relatively short, femora incrassate, the tibiae beset with long whitish spines, about as long as wide diameter of tibia, intermixed with short and fine hairs, tarsi long, claws with pseudarolia easily visible, reaching beyond middle of claw.

Type of genus: Hambletoniola antennata n. sp.

This genus belongs to the group of Phylini with scale-like pubescence intermixed with common hairs and differs from others due to its very peculiar thickened and ovoid third antennal segment. Besides the antennae it is also characteristized by its long tibial spines, long pubescence of body and type of pseudarolia.

It is with pleasure that I name this genus for Dr. E. H. Hambleton of the U. S. Department of Agriculture, who has contributed greatly to the advancement of neotropical entomology. Dr. Hambleton was also my first teacher in entomology and I am much indebted to him for his direction and encouragement.



EXPLANATION OF FIGURES

A. *Hambletoniola antennata* n. sp., female, holotype. B. Antennal segments III and IV of nymph (dorsal view). C. Antennal segment IV of nymph (front view). D. Antennal segments III and IV of male. E. Antennal segments III and IV of female. F. Phallus. G. Left paramere.

Hambletoniola antennata n. sp. (Figs. A, D, E)

Characterized by its color, structure of antennae and male genitalia.

Male: Length 2.8 mm., width 1.2 mm. *Head:* length 0.2 mm., width 0.8 mm., vertex 0.45 mm. *Antennae:* segment I, length 0.1 mm.; II, 0.4 mm.; III, length 0.25 mm., width 0.14 mm.; IV, 0.2 mm. *Pronotum:* length 0.4 mm., width at base 1.0 mm. *Rostrum:* length 0.85 mm., segment I, length 0.28 mm.; II, 0.28 mm.; III, 0.11 mm.; IV, 0.21 mm.

Color: whitish yellow sprinkled with small roundish brown dots and silvery pubescence; eyes brownish; second antennal segment brownish orange to black, with dark scale-like hairs, third segment black at base; body covered by minute brown spots and silvery flat recumbent hairs, the spots are not to be seen on mesoscutum and extreme base of corium; membrane hyaline with one roundish black spot beyond the apex of cuneus; underside concolorous with brownish spots on the pleural region, more numerous on propleura; femora and tibiae with brown to black spots, more numerous on anterior surface of femora; rostrum dark at apex; base of first antennal segment and sometimes antennal peduncle and portion of gena brownish to orange in color.

Genitalia: Phallus (Fig. F) of the *Phylini* type. Left paramere (Fig. G) also typical for the tribe, with a few dorsal setae and a somewhat two-lobed left branch.

Morphological characters as given for genus.

Female: Identical with male in color and dimensions. Third antennal segment more ovoid, almost globose. In the male this segment is distinctly narrowed towards the apex (Figs. D & E).

Host plant: Leucophylum sp.

Holotype: male, MEXICO (Brownsville, Texas, V. 5. 39, 31903) on *Leucophylum*. *Allotype:* female. *Paratypes:* male, female and nymph, same data as type, in the collections of the United States National Museum and of the author (type USNM No. 61996).

A New North American Eupogonius with Note (Coleoptera: Cerambycidae)

By Josef N. Knull, Department of Zoology and Entomology, Ohio State University

In my studies of Cerambycidae, the following new species was discovered:

Eupogonius arizonensis n. sp.

Female.—Narrow, elongate; ground color reddish brown, clothed with irregular patches of recumbent white and yellowish pubescence, longer brown hairs on dorsal surface, antennae and legs.

Head convex; surface finely punctured, clothed with light colored hairs, allowing ground color to show; eyes fringed with yellowish white recumbent pubescence, separated on vertex length of eighth antennal segment; antennae extending to about apex of elytra when laid along side, ratio of lengths of segments 1 to 11, 26:6:34:36:16:16:15:12:12:9:11, segments with recumbent hairs sparse, longer dark hairs numerous.

Pronotum wider than long, widest in middle, about as wide at base as at apex; sides subparallel, lateral tubercle small, acute; disk convex, a transverse depression at base; surface coarsely, densely, irregularly punctured, recumbent pubescence, allowing sculpture to show. Scutellum semicircular, pubescent.

Elytra at base much wider than pronotum; sides subparallel, apices separately rounded; disk convex; surface coarsely punctured, punctures becoming very fine toward apex, recumbent pubescence short, allowing sculpture to be visible.

Abdomen beneath coarsely, sparsely punctured, last sternite slightly emarginate, surface clothed with recumbent short pubescence, longer hairs arising from punctures.

Length 6 mm.; width 2 mm.

Holotype ♀ and *paratype* labeled Ruby, Arizona, Aug. 4, 1953, D. J. & J. N. Knull, collectors. In collection of author.

This species is closest to *E. pauperi* Lec. It can be distin-

guished by the narrow elongate form, small lateral tubercles, coarse sculpture of pronotum and sparse pubescence of dorsal surface.

Eupogonius fulvovestitus Schffr.

I erroneously synonymized this species in 1946. Specimens are at hand from Hidalgo Co., Texas, March 26, 1953 and May 23, 1951, D. J. & J. N. Knull, collectors. In addition to the smooth areas on head and pronotum mentioned by Schaeffer (1905), the scutellum is glabrous, which will distinguish it from other members of the genus in our fauna.

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Replacement of a Preoccupied Generic Name (Orthop.: Acrid.)

In a recent publication (Trans. Amer. Entom. Soc., LXXIX, pp. 121, 124 (1953)) I proposed the name *Loveridgea* for a subgenus of African Pyrgomorphinae (Orthoptera; Acrididae). My friend Mr. Arthur Loveridge, to whom the new entity was dedicated, has advised me that *Loveridgea* was used in Reptiles in 1951 by Vanzolini (Herpetologica, 7, p. 114). Unfortunately the "Zoological Record" list of new generic and subgeneric names proposed in 1951 was not available until after my paper had gone to press, although a full check had been made up to and including 1950. In place of my preoccupied *Loveridgea* I wish to propose *Loveridgacris,* to retain its association with the eminent student of African zoology to whom it was originally dedicated.—JAMES A. G. REHN.

A European Weevil in North America

By Elbert L. Sleeper, Department of Zoology and Entomology, Ohio State University, Columbus 10

In May, 1953, a small series of a weevil from Delaware was sent to the author. In October, 1953, three Pennsylvanian examples of this same species were sent to the author by D. G. Kissinger of Washington Missionary College, Takoma Park, Washington, D. C. At this time Mr. Kissinger stated that he believed it to be an import. Comparison of it with European material by W. J. Brown of the Division of Entomology, Department of Agriculture, Ottawa, Canada and the author proved this species to be *Gymnaetron pascuorum* (Gyll.).

G. pascuorum may be distinguished from other North American members of the genus as follows: smaller and narrower (length 1.6–2.2 mm., width 0.8–1.1 mm.); black, the antennae, elytra, legs, and tarsi reddish brown, the base of the elytra and the sutural line frequently black; vestiture of fine, sparse, prostrate setae, except on elytra where the setae are coarser and erect. The tibiae of both sexes are mucronate.

This species is generally distributed in Europe and is recorded as breeding in *Plantago spp.* The North American specimens examined were from the following localities: Van Dyke, Del., V–13–52, H. E. Milliron, on alfalfa; Newark, Del., several dates from May to August in 1952–53, on strawberry, potatoes, and alfalfa; Lebanon S. F., Del., V–9–53, C. A. Triplehorn; New Castle Co., Del., May and July, 1952; and Leipsic, Del., May, 1952. Mr. Kissinger has collected this species at Stoney Creek Mills, Pennsylvania, VIII–24–52, and Pottstown, Pennsylvania, VII–28–53. Examples of *pascuorum* are in the following collections: Delaware University, Entomological Collection, Canadian National Collection, D. G. Kissinger Collection, and the author's collection.

It is possible that this species was first introduced, in nursery stock from Europe, in the vicinity of Wilmington, Delaware. The bulk of the material examined was collected within a 40-mile radius of that city.

It is doubtful if this species will be of economic importance in the United States. The occurrence of it on the aforementioned plants is probably accidental. It is possible that this weevil might cause some damage to alfalfa, if the female should oviposit in the blossoms. *G. teter* (Fab.) oviposits in the ovaries of mullein, *Verbascum thapsus* (L.). The immature stages are passed in the seed pod of mullein.

Cryptophyllaspis liquidambaris Kotinsky in New Jersey (Homoptera)

This species, known as the sweet gum scale, was collected during June, 1953, on sweet gum from Cape May, N. J. This insect inhabits the undersides of the leaves, the oval or circular female scale making a tiny, blunt, conical mound or gall on the upper leaf surface and living on the lower surface in the tiny open pit beneath the mound. It has been recorded from Florida, Georgia, Mississippi, Louisiana, District of Columbia, Texas, Ohio and New York City, but not previously from New Jersey. Apparently this species escaped notice for years, partly because of its unimportance, but principally because collectors are getting scarcer and scarcer.—H. B. Weiss.

The Continuing Abundance of Lacebugs in New Jersey

In Entomological News for July, 1952, attention was called to the unusual abundance of lacebugs in New Jersey on various host plants during the summer of 1951. During the summers of 1952 and 1953 this abundance continued, with some abatement in 1952. *Stephanitis rhododendri* Horv., on rhododendron, *Stephanitis pyriodes* Scott on azaleas, *Corythucha ciliata* Say on American buttonwood and European planes, *Corythucha cydoniae* Fitch on *Crataegus,* continued to build up numerically during the summer months of 1953 until by the end of the season every leaf on many of their host plants was whitened by adult and nymphal feeding. According to U. S. Weather Bureau records, the winters of 1951–52 and 1952–53 were mild, the latter, even more so than the former. As a result the mortality

among overwintering adults and eggs was reduced and the way was paved for heavy summer populations.—H. B. Weiss.

Records of the Order Zoraptera from South Carolina [1]

By W. St. Amand

In his synopsis of the order Zoraptera (Proc. Ent. Soc. Wash. 40: 57–87, 1938), Gurney states that *Zorotypus hubbardi* Caudell is probably abundant in the Southern States. He lists records from Maryland, Virginia, North Carolina, Illinois (?), Arkansas, Louisiana and Texas. It has been reported from Alabama by Valentine and Wilson (Ent. News 60: 180–1, 1949) and from Georgia by Riegel (Ent. News 61: 124, 1950). In addition, Copeland (in press) reports it from Kentucky, Tennessee and Mississippi.

A record of the occurrence of *Zorotypus hubbardi* from South Carolina seems worthy of note. Collections were made at sawdust piles at the following localities: 8 mi. N of Travelers Rest, Greenville Co.; 4 mi. NW of Newberry County line, Laurens Co.; Edgefield, Edgefield Co.; and near Kirksey, Greenwood Co. At Edgefield specimens were found with termites and at Kirksey with ants but there is no evidence of more than incidental association. All individuals collected are wingless.

Current Entomological Literature

Compiled by VENIA T. PHILLIPS, Librarian

Academy of Natural Sciences of Philadelphia

Under the above head it is intended to note papers received at the Academy of Natural Sciences of Philadelphia and the University of Pennsylvania pertaining to entomology, including all arthropods except Crustacea. Coverage will be world-wide as regards major contributions to systematics as well as for all papers on morphology, physiology, embryology, etc. In addition, for species from the Americas and the Pacific (Nearctic, Neotropical and Polynesian regions) all minor contributions to taxonomy, distribution, etc., will also be recorded.

[1] Contribution number 97 from the Department of Zoology and Entomology, The University of Tennessee, Knoxville, Tenn.

This list gives references of the year 1953 unless otherwise noted. Continued papers, with few exceptions, are recorded only at their first installment.

For other records of general literature and for economic literature, see the Bibliography of Agriculture, Washington, and the Review of Applied Entomology, Series A, London. For records of papers on medical entomology see Review of Applied Entomology, Series B.

NOTE: The figures within brackets [ ] refer to the journal in which the paper appeared, as numbered in the List of periodicals and serials published in our January and June issues. The number of the volume, and in some cases, the part, heft, &c. is followed by a colon (:). References to papers containing new forms or names not so stated in titles are followed by (*); if containing keys are followed by (k); papers pertaining exclusively to Neotropical species, and not so indicated in the title, have the symbol (S).

Papers published in ENTOMOLOGICAL NEWS are not listed.

This number is devoted entirely to papers appearing in the Transactions of the 9th International Congress of Entomology, held in Amsterdam, August 17–24, 1951. Publ. at The Hague, v. 1, 1115 pp., 1952; v. 2 (Entitled "Symposia"), 361 pp., 1953.

GENERAL—Atkinson, D. J.—The natural control of forest insects in the tropics. 2: 220–23. **Barnes, H. F.**—Outlines of insect phenology. 2: 163–73, ill. **Betrem, J. G.**—Interrelation and interaction of biotic and abiotic factors in some tropical insects. 1: 791–94. (Repeated in 2: 278–81.) **Bishopp, F. C.**—Insecticide problems in the United States of America. 1: 1023–29. **Bonnet, P.**—Proposition d'une reglementation pour la formation des termes scientifiques compises (choix de la voyelle de liaison). 1: 189–93. **Box, H. E.**—The history and changing status of some neotropical insect pests of sugar cane. 2: 254–59. **Dammerman, K. W.**—Proposals concerning the nomenclature of family names and of names of economically important insects, to be submitted to the IXth International Congress of Entomology at Amsterdam. 1: 203–05. **Dowden, P. B.**—Natural control of forest insects in the United States. 2: 215–19. **Dufrenoy, J. & J. L. Plumb.**—A graphical calculator for statistical analysis of experiments in entomology. 1: 1068–70, ill. **Dupuis, C.**—Données sur la morphogenese des genitalia males des insectes, leur importance pour une nomenclature rationnelle de ces structures. 1: 151–54. **Edney, E. B.**—An electrical hygrometer suitable for microclimatic measurements. 1: 525–30, ill. **Ferrière, C.**—Le fardeau des vieilles especes inconnues. 1: 194–96. **Franz, H.**—Die bedeutung der terricolen arthropoden für bodenbeurteilung und bodenverbesserung. 1: 439–43. —Die bedeutung vergleichender untersuchungen an biocoenosen für die lösung historischtiergeographischer probleme. 1: 547–52. **Haarløv, N.**—Microarthropods from some Danish soils. 1: 424–27, ill. **Hemming, F.**—Seven problems of zoological nomenclature awaiting decision: an appeal to specialists for advice. 2: 37–47. **Jucci, C.**—Simbiosi e filogenesi negli insetti. 1: 449–53. **Kangas, E.**—On population regulation

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2: 251–53. **Bodenstein, D.**—Endocrine control of metamorphosis with special reference to holometabola. 2: 58–62. **Bounhiol, J. J.**—Rôle du corpus allatum dans la métamorphose des insectes. 2: 63–72, ill. **Busnel, R. G.**—La fluorescyanine et l'acide folique, pterines de Bombyx mori L. 1: 356–58. **Busvine, J. R.**—Laboratory investigations with insecticide-resistant houseflies. 2: 335–39. **Buzzati-Traverso, A. & R. Scossiroli.**—Interspecific crosses between Drosophila species living on different continents. 1: 246–49. **Carayon, J.**—Les phenomenes particuliers, qui accompagnent la fecondation chez certains hemipteres Nabidae. 1: 259–62. **Cloudsley-Thompson, J. L.**—Diurnal rhythms. 1: 305–10. **Dethier, V. G.**—Host plant perception in phytophagous insects. 2: 81–89. **Dierick, G. F. E. M.**—Some data on the composition of the waxy layers on eggs of the European red spider in different stages of development. 1: 295–302. **Dubois, K. P.**—The toxicology of organic phosphorus-containing insecticides. 2: 313–17. **Farstad, C. W.**—Influence of wheat varieties on the wheat stem sawfly, Cephus cinctus. 1: 287–88. **Fraenkel, G.**—The nutritional requirements of insects for known and unknown vitamins. 1: 277–80. —The nutritional value of green plants for insects. 2: 90–100. **Grandori, L.**—Effets lethaux selectifs d'une subtance acetylcholinique sur quelques especes d'insectes. 1: 269–72. **Grassé, P. P.**—Le polymorphisme des termites et la determination des castes. 1: 51–62. **Grison, P. A.**—Relations entre l'etat physiologique de la plante-hote, Solanum tuberosum et la fecondite du doryphore, Leptinotarsa decemlineata Say. 1: 331–37. **Handschin, E.**—Die bedeutung der postembryonalen entwicklung für die Protomorpha (Collembolen). 1: 235–40. **Hering, E. M.**—Probleme der xenophobie und xenophilie bei der wirtswahl phytophager insekten. 1: 507–13. **Holst Christensen, P.**—The development in vivo of time-fixed eggs of Cochlidion limacodes Hufn. 1: 219–22. **Hopf, H. S. & W. R. Boon.**—Studies in the mode of action of insecticides. I. Injection experiments on the role of cholinesterase inhibition. 1: 263–68. **Johnson, C. G.**—The role of population level, flight periodicity and climate in the dispersal of aphids. 1: 429–31. **Jucci, C.**—Systematics and cytogenetics in anophelines. 1: 232–34. **Keiding, J.**—Development of resistance in the field and studies of inheritance. 2: 340–45. **Kennedy, J. S.**—Host plant selection in Aphididae. 2: 106–13. —Unidirectional movement in migrating locusts. 1: 394–400. **Ketelaar, J. A. A.**—Chemical structure and

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